

40. *Achnanthes brevipes.*
 41. *Achnanthes subsessilis.*
 42. *Tryblionella gracilis.*
 43. *Tryblionella marginata.*
 44. *Cyclotella rectangula.*
 45. *Cocconema lanceolatum.*
 46. *Synedra*, three forms; *Tabellaria*, *Cymbella*, *Nitzschia*, *Cocconeis*.
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ART. X.—*Manners and Customs of the Australian Natives, in particular of the Port Lincoln District.* By CHARLES WILHELMI, Esq.

[Read before the Royal Society, October 29, 1860.]

ALTHOUGH Australia, for a considerable time already, is known to the world in general, very little, comparatively speaking, has as yet been made known respecting the habits and customs of its aboriginal inhabitants; very few persons indeed have given themselves the trouble to note down what they may have seen or may have been told by these children of nature, in order that those who have not had such opportunities may be enabled to form a correct idea respecting them.

My various botanicaal journeys, since 1849, have necessarily brought me in frequent contact with them, when it always has been most interesting to me closely to watch the different customs and habits of this race of mankind.

During my two visits to Port Lincoln, I have had many opportunities for making observations respecting the natives there, which were the more interesting, as these people, at that time, had as yet been so little interfered with by civilization.

To the Rev. Mr. Schurmann, however, I am most particularly indebted for his valuable communications on this subject.

This gentleman, in 1840, about twenty-one years ago, had been appointed Protector of the aborigines of Port Lincoln, and has occupied this office for nearly six years. After

having then removed to Adelaide and Encounter Bay, in his capacity of missionary, he returned after a few years' absence to his old post at Port Lincoln. Fully conversant with their language, he easily obtained the most complete information as to the living and occupation of the tribes of that particular district. During my stay with him in 1851, twenty-four native children attended his school, and had then made pretty considerable progress in reading, writing, &c., which was rendered the more easy to them by the advantage that all information was by this most excellent man conveyed to them in their own language.

It has been remarked that the population and general condition of the natives of Australia greatly depend on the nature of the locality they occupy; where the country is sterile and unproductive, the natives are found to congregate in small numbers, and to be in a miserable condition; while, on the contrary, in fertile districts they are comparatively numerous, robust, and well made. The correctness of this observation must have been apparent to every one who has had the opportunity of comparing the natives of Port Lincoln with those of the Adelaide and the Murray districts, in particular. The former are less in number, of smaller size, weaker, and less expert, and not of so sociable a disposition as the latter. A Port Lincoln black but very rarely exceeds the height of a middle-sized European, and in reference to bodily strength the comparison is more unfavorable still. Among the Murray tribes, on the contrary, you will find handsome, tall, and well-made men.

Striking peculiarities in the appearance of their body are their miserably thin arms and legs, wide mouths, hollow deep sunken eyes, and flat noses; if the latter are not naturally so formed, they make them so by forcing a bone, a piece of wood, or anything else through the sides of the nose, which causes them to stretch. They generally have a well-arched front, broad shoulders, and a particularly high chest.

The men possess a great deal of natural grace in the carriage of their body, their gait is easy and erect, their gestures are natural under all circumstances in their dances, their fights, and while speaking, and they certainly surpass the European in ease and rapidity of their movements.

With respect to the women we cannot speak so favourably by a great deal; their bodies are generally disfigured by exceedingly thin arms and legs, large bellies, and low hanging

breasts, a condition sufficiently accounted for by their early marriages, their insufficient nourishment, their carrying of heavy burdens, and the length of time they suckle their children, for it is by no means uncommon for children to take the breast for three or four years, or even longer.

Although a superficial observer will scarcely be able, on account of the apparently great similarity prevailing among them, to detect any difference in them, a closer intimacy with them will easily trace very considerable varieties, not of countenances and forms of body only, but also of colours and skins even; while the skin of the tribes of the north, which inhabit a rather scrubby country, is darker and drier in appearance, that of the tribes of the south and the westward, in many instances, approaches to what is termed the copper colour. Whether this is attributable to the influence of the climate or the difference of the food, it is difficult to decide. My valued friend, the Rev. Mr. Schurmann, however, is inclined towards the opinion, that upon the whole the best fed and most robust natives are of the lighter colours.

In reference to this subject, Dr. Livingstone makes the following remark in his "Missionary Travels and Researches in South Africa" (page 78):—"Heat alone does not produce blackness, but heat with moisture seems to insure the deepest hue." He found that tribes living in the desert of Africa were of a lighter colour than those near the rivers.

The covering they generally wear consists of one or two kangaroo skins only, and seldom of rugs made of skins of the wallaby, opossum, and similar animals, and which for this purpose are prepared in the following manner:—The skin, directly after being flayed, is spread—the flesh side upwards—on an even smooth piece of ground, and fastened by small wooden pegs, driven in along the ridges; when dried the small fleshy fibres adhering to the skins are scraped off with a sharp angular piece of quartz, and afterwards the skins are well rubbed over with a coarse-grained stone, for the purpose of making them soft and pliable. Thus prepared, the skins are then sewed together with the sinews of the tail of the kangaroo, a small sharp-pointed bone answering admirably for the purpose. As these skins are never tanned, the natives are required to be very careful in guarding the flesh side against the wet, as it would make them hard and stiff; on this account it is that during the rain the hairy side is turned outside. The best rugs generally belong to the women, and more particularly so if they have young children,

as they make them serve for covering both of them, while they carry them on their backs, or while resting they have them on their laps. Those children old enough to walk are decidedly the worst off as regards covering, for they have to run about quite naked, or be satisfied with the remnant of some old used-up rug.

More for ornament than for any imaginable comfort, the men wear a band of yarn round their heads, tying it round several times, so as to leave the crown only uncovered by it. They spin this yarn of human hair, or of that of the opossum, using for the purpose a kind of spindle, about two feet long, and not thicker than a goose quill, with a cross piece at one end, on which they wind up the yarn spun. They turn or roll this spindle on their legs, with their hands spread out flat. If desirous to appear particularly decorated, they will add to the above ornament a bunch of emu feathers, stuck in their hair in front.

The Murray tribes, in the neighbourhood of Swan Hill, in a similar way spin the fibres of the roots of the club rushes (*Typha Shuttleworthii*) to any lengths, and employ it for making their nets.

On occasions of rejoicings and of ceremonies, as, for instance, at the meeting of two different tribes, they add two small pieces of green wood, decorated from one end to the other with very thin shavings, and which have the appearance of a white plume of feathers, and these they stick behind their ears through the above-mentioned band, in such a manner that the upper ends can be joined in front, and thus, at a distance, they have the appearance of two long horns. Mr. Schurmann has seen this latter ornament only with one tribe of the north-west, and it may perhaps be confined to it. This ornament, together with their white and red painted chest and arms, are said to produce quite the impression of untamed savages.

Frequently they attach to the end of their pointed beards the tip of the tail of a wild dog, or a wallaby. A very particular ornament, however, they consider it to wind the entire tail of a wild dog round their head, just above the front.

The natives who come in frequent contact with Europeans, instead of the latter ornament, make use of a rag of white or red cloth, or else of even a piece of paper.

The men always wear round the waist a cord, generally made of their own hair, being first spun, and then twisted

into a cord of about a quarter of an inch thick, and which at times is interwoven with emu feathers. If they cannot have one of this description, they will take any kind of cord rather than do without one altogether. They always wear it tight, but tighter if hungry, as they say, in order to allay the painful sensation of hunger. I have seen these cords tied so tightly, that in front they were perfectly hidden from observation.

The means which the natives, both males and females, mostly use and prefer to all others for beautifying themselves, is fat; if well supplied, they rub their entire body over with it; but if short of it, they confine themselves to anointing their faces only. There can be no doubt that this custom has its origin in some sound reasonable motive, and produces with them a feeling of comfort, in hot weather particularly, when the mosquitos and flies are exceedingly troublesome. They will ask for a little fat as pitifully as for a piece of bread. They compare this custom to that of Europeans washing themselves; they never appear in better humour than when the fat is actually dripping from the entire body, from head to foot.

Dr. Livingstone, in his *Travels in Africa*, page 108, in alluding to the custom of the Griquas and Bechuanas rubbing their bodies with fat or oil, states, that probably this is done "in order to assist in protecting the pores of the skin from the influence of the sun by day, and of the cold by night."

They use three colours in painting themselves, viz.—black, red, and white. The black and red colours are the produce of a soft stone which they draw from a great distance in the north; by rubbing or scraping it they obtain a powder, which they rub into the fat which they have before put on their faces, arms, and breasts; the colors then assume quite a metallic lustre. The white colour is prepared of a soft clay or chalk. It is applied on particular occasions only, among others for dancing, and when in mourning. I shall, hereafter have the opportunity of stating more fully, how, for dancing, they paint themselves with this color. For indicating mourning, the women paint their whole front, a ring round each eye, and a perpendicular line about the stomach; but the men paint the breast by making drawn or punctured streaks down from the shoulders, all verging towards and joining at the navel. The difference in the design of the painting indicates the nearer or more remote degree of the

relationship with the deceased. The black colour, in some parts, is also used for mourning, according to what Mr. Schurmann has been able to ascertain, at the death of a relation by marriage, while the white is used at the death of blood relations. It thus becomes evident that the natives do not paint themselves in one and the same manner, but differently, according to the degrees of relationship between them and the deceased, which is expressed by the various designs.

The weapons of the natives of Port Lincoln are by no means so handsome and respectable looking as those of the Adelaide and Murray tribes, but are quite as efficient.

The spears are made of the stems of the young *Leptospermi* (better known as the tea tree), which, hardened in hot ashes, they bend and sharpen. Their usual length is seven feet and upwards, the thickness at the end of the root about that of the thumb; in the upper end they bore with the tooth of the kangaroo a perpendicular hole, in which, for throwing it, they fit the hook of the wooden lever, called "middla;" and in order to protect the edge of the hole against breaking or splitting, they take the precaution to tie it well round with a fine sinew of the kangaroo. Among the number of spears which every adult native carries with him, they generally have two or three of them ready provided with the "barb," and for the others they always have about them sufficient to serve in case of need, and can fasten them on in an instant. These "barbs" are simply a small piece of wood, of about two inches long, and having a knee in the middle, so that in putting one side flat on the spear, the other will project from it in an acute angle; and although it is fastened on with sinews of the kangaroo only, it is so firmly fixed as never to slip off, so that it is quite impossible to draw such a spear out of the body of a person or an animal, and it can only be broken off. On this account it is considered unfair and highly blameable to employ this weapon in any fight or in warfare. Besides this kind of spear, which is always thrown with the so-called "middla," they make use of the "winna," about five feet long, thick and clumsy, but only for the purpose of spearing fish.

The "middla" is a kind of lever, by means of which an increased power is created for propelling the spear with greater force than could be done with the arm by itself. It is about two feet long, two inches broad; the inward side on which the spear rests is scooped out a little, while the outward

part is rounded, both sides being usually notched, in order to give a firmer hold. To the upper tapering end is attached, with sinews of the kangaroo and a little gum, a hook or a tooth of the kangaroo, which, when throwing, is placed in the opening at the flat or blunt end of the spear. It is generally made out of a piece of the casuarina or she-oak. In using the "middla," it is held with three fingers, while the thumb and first finger remain disengaged, for holding the spear, and giving it the proper direction.

Another weapon, called "wirra," is made of the stem of young trees, about one and a-half feet long, and barely an inch thick. The thin end, which serves for the handle, is generally notched, while towards the thicker end it is a little bent, somewhat in the shape of a sword. The "wirra" of the Adelaide and Murray tribes have generally a stout knob at the lower end, which adds considerably to their propelling power. This weapon the natives use for killing kangaroo rats and other small animals, and also at the commencement of their fights or battles, until they can afterwards employ their spears.

The "katta" is a cudgel or stick, four or five feet long, and one or two inches thick, the lower end of which, when hardened by fire, is sharpened something in the shape of a chisel. This tool is used for digging up roots; and as this is one of the occupations of the women chiefly, they constantly carry them along with them. The Murray tribes also employ the "katta" for loosening the bark off the eucalypti, which operation they perform remarkably quick.

This bark serves for the building of their canoes, and for their protection against rain. The Murray tribes generally have in their camps a piece of this bark, drying upon it the skins of the smaller animals, the opossums, wallabies, and others required for their rugs, as described above.

The "wadna" is a kind of weapon about three feet long, with a knee in the middle. It is never used as a weapon for fighting, but only for killing large fish; on this account they are but seldom seen with the natives, and then only when they happen to be engaged in fishing.

The most extraordinary tool in use among the Port Lincoln tribes, and (according to Mr. Schurmann's opinion, as it has never been mentioned among any others) confined to them, is the "yuta," being a piece of bark, about 4 to 5 feet long and 8 or 10 inches broad, in the shape of a small trough. It is used for separating a large species of eatable ants. When

they open the ant-hills, they find among the refuse the large white maggots and eggs, which alone are eaten; in order to save themselves the trouble of picking them with the hand, they employ the "yuta," as a kind of fan or sieve, the larger and eatable particles remaining back in it. As these maggots are already alive, the natives wrap them in a bunch of dry grass, which they chew and suck until they have extracted all substance. The season of these ants is in September and October, and at this season only of the year will you meet with the "yuta" in their hands.

In confirmation of the above, Mr. Blandowski mentions that the Goulburn tribe also avail themselves of ants' eggs, and clean them in the following manner:—"They throw ants and eggs, &c., into a kangaroo skin, which they shake roughly, by which the eggs, on account of their greater specific gravity, are precipitated to the bottom, and the ants, particles of wood, and other impurities on the surface, being then removed, the eggs are eaten raw, and resemble sago, and possess a very peculiar aroma."

All their weapons and tools, together with various other articles, they collect in their knapsacks, which they carry by means of strings tied over their left shoulder and under the left arm. It consists either of a kangaroo skin only, drawn together with a cord, or of a coarse matting made of the fibres of a certain kind of rush. The articles contained in almost every knapsack are—a small flat shell for drinking, a round flinty stone for bruising the bones of the game, pieces of one or more kinds of colours, a small wooden shovel, which they use for roasting roots, a few pieces of quartz, and the entire skin of some small animal, which answers the purpose of a bag, into which they put the smaller objects they require, such as sinews of kangaroo and pointed bones of various sizes, which answer the purpose of thread and needle, also some bones with sharp edges, for scraping the roots, some spearhooks, &c.

To prevent anything from dropping through the large meshes of the network, they line it with dry grass. In addition to the articles mentioned, they put into their knapsacks, called "nurti," a stock of roots and game, and then on the top they place their weapons, which are kept fast by being twisted between the strings, so that they cannot slip off. The bags of the women, called "nudla," differ from those of the men in being of a larger size, and, if filled and heavy, are carried on the back by means of crossbelts.

I have to mention another instrument, quite different from any of those above, viz.:—the “witarna,” a piece of wood 18 inches long, 4 inches broad, $\frac{1}{4}$ inch thick, which, tied to a long string, they swing round above their heads, and thus produce a low rumbling sound at intervals, ceasing and returning with increased power. To the women and children the “witarna” is carefully hidden, as its sound indicates that the men are engaged in some of their secret ceremonies, and that they are to keep aloof from them.

It has been asserted that the natives eat anything without any distinction whatsoever; this statement, probably, is owing to the fact that they certainly eat many things which to Europeans are disgusting, as, for instance, maggots of various kinds, rotten eggs, the entrails of animals; but, on the other hand, the white people eat many things which to the natives are equally disgusting, such as certain kinds of fish, oysters, shellfish, muscles of all kinds, the common mushroom, the other description of which latter however they are very fond of themselves.

The natives divide all their articles of food into two classes—the “paru” and “mai,” the former including all animal, and the latter all vegetable articles of food; of these are the various descriptions of roots—such as the ngamba, ngarruru, and others, all of about the size of a small carrot, and of its shape, of a more or less acrid taste, and which are first roasted in hot ashes, and then peeled for eating. Of the grass-tree, xanthorrhoea, they eat the lower part of the stem not yet grown above the surface of the ground; it is by no means tasteless, but certainly cannot contain much nourishment; besides these they also eat various kinds of fungi.

Although to Europeans the country offers scarcely any kind of eatable fruit, it yields a pretty good variety of such as affords valuable food to the blacks. The most important and abundant fruit is that of a mesembrianthemum, to which the Europeans have given the somewhat vulgar name of pigfaces, but the natives the more euphonical one of karkalla. Pressing the fruit between their fingers, they drop the luscious juice into the mouth. During the karkalla season, which lasts from January till the end of the summer, the natives lead a comparatively easy life; they are free from any anxiety of hunger, as the plant grows in all parts of the country, and most abundantly on the sandy hills near the sea. The men generally gather only as much as they want for the moment, but the women collect large quantities for eating after supper. The Port Lincoln

blacks eat only the fruit of this plant, but those living between the Grampians and the Victoria Ranges, as a substitute for salt with their meat, eat also the leaves of this saline plant. All other edible fruit grow in pods, or in the shape of berries on small bushes. Some of these they allow to ripen, as, for instance, the fruit of the santalum and that of a species of *epacris*, which, growing on the sea-shore, bears small red sweet berries called "wadnirri." Another plant, "karambi," also growing on the sea-shore, is the *Nitraria billardierii*.* Other fruits they collect before they are ripe, and roast them in hot ashes, such as the berries of the pulbullu, and the pods of the menka, and the nundo. The last-mentioned fruits, highly valued by the natives, are of the acacias, growing abundantly on the sandy downs of Sheaford and Coffin's Bay, and by attracting thither a numerous company of blacks, they frequently give occasion for dissension and quarrels. As a proof of the value or consideration attached to this fruit, it may be mentioned that, in order to annoy their adversaries, the Kukata tribe of the north-west, famous for their atrocity and witchcraft, often threaten to burn or otherwise destroy the nundo bushes.

As only few gum-trees grow in Port Lincoln, they have but little of the edible gums upon which the Adelaide tribes live almost exclusively during the summer months; what they get they collect from the acacia trees, which, however, grow but sparingly, yielding very little gum.

Any kind of game, from the kangaroo down to the smallest species of the genus of the marsupials, and every description of birds, without distinction, are welcome as food to the Port Lincoln blacks, nor are snakes and lizards by any means despised by them—the former of which they eat only if killed by

* The *Nitraria billardierii* belongs to the order of *Malpighiaceae*, grows in large quantities on high sandhills along the western sea-coast of Port Lincoln, has a fruit in form and size resembling an olive, is of a dark red color, has a very pleasant taste, and is exceedingly cooling. In December and January the bushes are so full of fruit, that the natives lie down on their backs under them, strip off the fruit with both hands, and do not rise until the whole bush has been cleared of its load. At the time above mentioned I travelled with five natives, who carried my collection of plants and blankets on a very hot day through this arid country; all at once they threw off their loads, ran as quickly as they were able to one of the high sandhills, and disappeared amongst the bushes. Not knowing the meaning of all this, I followed them, and found the whole five, as above described, lying on their backs under the bushes. I could not do better than do so likewise, and when we had refreshed ourselves we continued our journey.

themselves. They are also very fond of lizard eggs, which, dug fresh out of the ground, taste exactly like soft-boiled hen's eggs.

Their usual method of hunting is unobservedly to approach the animal as near as they can, and to spear it. On these occasions they resort to various manœuvres, as for instance—one of the blacks places himself at some distance in an open space of ground or behind some bushes, and makes a slight noise by breaking off some branches, or in any other way, while another black stealthily approaches to within a spear's throw from the opposite side, where, of course, the animal does not suspect the least danger. This is the usual manner for killing kangaroos, emus, wild dogs, &c. If, however, there be assembled a number of natives, and aware of several kangaroos being in the neighbourhood, then they will surround the district, gradually narrowing the circle; the best spearsmen being placed at certain favourable spots, and the others driving the game regularly towards them. If such a chase happens to take place near the sea, the kangaroos will try to escape into it, but to little purpose only, as their pursuers follow them there even, and while swimming surround them. Smaller animals, such as wallabies, kangaroo rats, &c., which live in the lower scrub, they kill by throwing at them (when started) clubs called "wirra." At times, having set on fire entire districts of country, they place themselves before the fire in order to kill the scared animals which try to escape in that direction. The blacks are very expert in the use of this very simple weapon, and practise it from the earliest age, by rolling on the ground, instead of the animal, a dry sponge, throwing the wirra after it. I have frequently seen little boys seven and eight years old, bringing down, in this manner, parrots off the casuarina trees, and the little girls even know well how to handle this tool.

When hunting in the lower scrub, they attach a bunch of feathers to the blunt end of the spear, and on discovering an animal, fix it in the ground as a signal for the others to come near, and surround it to secure the prey. In addition to this they have a variety of signs, unaccompanied by sound, for indicating the different animals they discover; for instance, they stretch out the first finger, moving it as in imitation of the leaping of a kangaroo when not suspecting an enemy, to indicate that such an animal is in sight; again, three fingers stretched out, the second finger a little lower than the others, is for an emu; the thumb alone is raised for an opossum; the

whole hand stretched out horizontally for fish, and similar signs for every kind of game.

The opossum and wild cat they hunt when the sky is slightly clouded, saying that with a clear sky the animals can see them, and will escape before they can approach them. When they discover kangaroo rats in the holes of rocks, or under heavy stones, and find that they cannot drive them out with their hands or a stick, they will light a fire at the hole in order to smoke them out.

Having no fish-hooks, they are, with respect to fishing, behind the other tribes of Australia. The larger fish they spear, but the small ones they catch in the following manner:—As they move in swarms, a body of natives, armed with branches of trees, go into the water, regularly surround and draw them together, and then with these branches push them on the shore. When engaged in this occupation they allow no stranger to be near, on account of the idea they have that the fishes would smell them and disappear.

Some fishes are in the night attracted to light, and then easily killed; the blacks, provided with torches, made of long strips of bark, go into the water, and catch them with the hand, striking them or spearing them.

There are great rejoicings with them if they have had good luck in their hunting or fishing expeditions. Quite excited, slapping their stomachs with both hands, every one exclaims—“Ngaitye paru, ngaitye paru,” which means “my food, my food,” and most liberally bestow their praise upon those whom they are indebted to for the great treat.

They roast all their meat on the fire. The large animals, such as kangaroos and emus, are cut up before cooking, and the former are skinned; but the smaller ones, excepting those of which they want to preserve the skins, are put on the fire with their skins on. They first singe off the hair, and having taken out the entrails, which are generally given to the women and children, they close up the opening with some small wooden pegs, and, thus prepared, place it on the fire for roasting. If connected with more cleanliness, this method of preparing the food might be strongly recommended, for the meat gains a most inviting flavour, and retains all its strength and juice; but the filthiness of these natives is so excessive, that they do not even take the pains to cleanse and wash the entrails, but, having squeezed out their contents only, they roast and eat them.

The superstitious simplicity of these natives is strikingly

apparent in their manner of hunting and dividing the game. There have been transmitted to them, by their early ancestors, several short rhymes of two lines, which now are known to the adults only, and these, on pursuing an animal, or when on the point of spearing it, they constantly repeat with great rapidity. The literal meaning of these cabalistic rhymes is totally unknown to them, and they are quite unable to give an explanation of them, but their object, and the power which they faithfully believe them to possess, is either to strike with blindness the animal which they are pursuing, or to create in it such a feeling of security and carelessness, that it cannot perceive its enemies, or so to weaken it that it cannot effect its escape.

The general principle, with regard to the division of the game, is, that the men eat the males, the women the females, and the children the small animals; but since there is no rule without its exception, so also in this case the men claim the right also to eat the females and small animals, while the women and children must abide by the established rules; the common kangaroo rat, however, they are all, without any distinction, allowed to eat.

As a fixed prohibition, the wallaby, in the Parnkalla language called "yarridni," and the two species of bandicoot, "kurkulli" and "yartini," dare not, on any account, be eaten by young lads or girls, as, according to their opinion they would, with the latter, cause premature puberty, and with regard to the former give to their beards a brownish appearance, instead of its becoming a jet-black colour, as it ought to do. Mr. Schurmann has had frequent opportunities to satisfy himself of the strict observance of this law. Lizards are considered the proper food for young girls whose puberty they wish to hasten on, and snakes for women to make them bear children.

A huntsman's life, under any circumstances, is a migratory one, but it becomes the more so in this country where Nature's products are obtainable only according to the season, and in districts far off one from the other.

On this account the Port Lincoln blacks are obliged at times to resort to the seacoast for catching fish, at others to rove over hill and dale in pursuit of game and roots, and during the unproductive months they are forced, for the smaller kinds of game, to roam through the whole country, some parts of which are covered with an almost impenetrable small scrub, and other parts complete deserts, all the time having to contend against a dreadful heat, rendered almost insupportable by the reflection of the rays of the sun, and of the

surrounding burning scrub; and being, in addition to all this, deprived of a sufficiency of water. In order then to allay their thirst, they resort to the strange trick of covering their stomachs with earth, in order to cool them, and which, they say, has the desired effect.

The average distance which the blacks travel in a day is 15 to 20 miles; but on one occasion myself, with three natives, and a woman carrying a child, walked 35 miles on an exceedingly hot day.

On their journey the men generally ramble about, but the women and children, under charge of one or two men, proceed in a direct course to their place of rendezvous.

In the morning they are never in a hurry to make a start, and at times it requires a great deal of coaxing and persuasion, on the part of some of the older men, to get them into a regular move.

On arrival at their camp or place of rest, generally a little before sunset, the first thing they do is to kindle a fire for roasting the small game which the men have secured during the day. The larger game they roast on the spot where it has been killed, which renders it anything but desirable to fall in with emus or kangaroos when travelling in company of blacks, if anxious to reach any fixed place at a certain time. The remnants of a large roast they hang upon sticks, and thus carry it to the camp.

After eating their meat, the women hand round the roots and fruits which they have gathered during the day; and after having done with these also, they chat and sing; and if assembled in large numbers, they dance until tired, then lie down for sleep. If there should happen to be a large supply of meat beyond that required for supper, they stay up the whole night to finish it; but if, after all, anything should remain over, they put it into a bag, which they make serve them as a pillow, and, on opening their eyes in the morning, their first move is towards the bag for its contents.

As patiently as they bear up against the cravings of hunger and thirst at times of want, as immoderate also are they when in abundance, when they overload their stomachs almost to bursting, and will not stir from the camp until their stock is exhausted, and hunger almost forces them to move.

The only cases in which they evince any forethought of the future is in their great care for birds' nests, and for water, to secure and protect which against animals they cautiously cover all their springs with stones or branches of trees.

Their habitations are of a very simple and primitive construction. In the summer, and in dry fine weather, they heap up some branches of trees, in the form of a horseshoe, for protection against the winds; in the winter, and in wet weather, however, they make a kind of hut or bower with the branches of the casuarina, in the shape of a deep niche, and erect them as perpendicularly as they can, thereby to facilitate the dripping off of the rain. In those parts of the country where they have gum trees (eucalypti) they peel off the bark, and fix it so well together as to make the roof quite waterproof. In front of these huts they always burn a fire during the night for warming their feet, and in the cold weather every one lies between a small heap of burning coals in front and at the back, for keeping warm the upper part of their body. As the slightest motion must bring them into contact with these burning coals, it naturally occurs that they at times seriously burn themselves.

The time they remain in one spot altogether depends on the locality, and the supply of food obtainable.

In several parts of Port Lincoln there are isolated wells or holes in large rocks, containing a supply of water, while not anywhere else, within 30 miles, a drop of it is to be found; the natives, as long as they remain in that neighbourhood, are, in consequence, obliged to return every night to the same camp. In places favourably situated for fishing they will extend their stay in the same camp for twelve or fourteen days, but never longer.

The habit of constantly changing their places of rest is so great that they cannot overcome it, even if staying where all their wants can be abundantly supplied. A certain longing to revisit this or that spot, for which they have taken a particular fancy, seizes them, and neither promises nor persuasion can induce them to resist it for any time; only in time and by degrees is this feeling likely to give way. As they travel greater distances during the summer months than during winter, they then also more frequently change their places of rest.

Each family has its distinct place, where they live together; and all unmarried men have to sleep by themselves.

All the aborigines in the Port Lincoln district are divided into two separate classes, viz., the "Matteri" and the "Karraru."

This division seems to have been introduced since time immemorial, and with a view to regulate their marriages, as

no one is allowed to intermarry in their own castes, but only into the other one—that is, if the man is a matteri, he can choose as his wife a karraru only, and *vice versa*. This distinction is kept up by the arrangement that the children belong to the caste of the mother. There are no instances of two karrarus or two matteris having been married together, and yet connexions of a less virtuous character which take place between members of the same caste do not appear to be considered incestuous. In addition to this general rule, there are certain degrees of relationship within which intermarrying is prohibited; yet from the indefinite degree of their relationship by blood, arising from the plurality of wives, and their being cast off at pleasure, &c., it becomes very difficult to trace them exactly. Besides this, friendship among the natives leads to the adoption of forms and names strictly in use among relatives only; thus it becomes totally impossible to make out what are real relations or apparently so.

Marriages among the Port Lincoln blacks are made up in the most simple manner imaginable.

The girls, when young, are betrothed by their parents to a friend of theirs, young or old, married or unmarried, as the case may be, and when grown up for marriage are simply ordered to follow their husband, without any further ceremonies, and without the least regard for their own individual inclinations. To their good luck, however, it does not very seldom occur that an old, jealous matron strongly opposes herself against such a division of her husband's affections between herself and her young rival, and forces him to renounce all claims upon her in favor of some young fellow, who is but too willing to take charge of her. Sometimes, also, a young man, urged on by his passions, or under the idea of a well-founded claim, will, by force, abduct the wife of another, and, if he cannot otherwise gain his object, even kill him without the least compunction.

The marriages of the Goulburn tribe seem nearly to correspond with those in Port Lincoln, as may be seen from an extract from Mr. Blandowski's "Personal Observations in Victoria":—

"The young man who wishes to marry, has first to look out for a wife amongst the girls or lubras of some neighbouring tribe, and having fixed his choice, his next care is to obtain her consent. This being managed, the happy couple straightway elope, and remain together in the bush for two

nights and one day, in order to elude the pretended search of the tribe to whom the female belonged. This concludes the ceremony, and the young man then returns with his wife to his own tribe. He is, however, laid under this peculiar injunction—that he must not see his mother-in-law any more; and the following circumstance, connected with this fact, has been related to me by Mr. Grant, an eye-witness. A mother-in-law having been descried approaching, a number of lubras formed a circle around the young man, and he himself covered his face with his hands. This, while it screened the old lady from his sight, served as a warning to her not to approach, as she must never be informed by a third party of the presence of her son-in-law.”

The most abominable views and the still more shameless conduct of the natives, with respect to marriages, if the term can be applied to their manner of living together, undoubtedly presents the worst feature of their character.

Although the men are apt to become passionately jealous if they detect their wives transgressing without their consent, yet of their own accord they offer them and send them to other men, or make an exchange for a night with some one of their friends. Of relatives, brothers in particular, it may be said that they possess their wives jointly.

While the former custom of lending their wives out for a night appears to be considered by the blacks themselves as indecorous, yet the other one is an acknowledged custom, which they do not see the least occasion to be ashamed of.

These extraordinary connections have given rise to strange appellations among them. The woman honors the brother of the man to whom she is married with the title also of husband, while the men call their own wives *yungaras*, and those of their brothers, *kartetis*.

Although they are married so very young, the women, according to Mr. Schurmann's observations, generally have no children before the age at which they get them in Europe.

The number of children in a family varies considerably; but, upon the whole, it is limited—seldom exceeding four.

If, as it but seldom occurs, children are born in a family quick one after another, the youngest is generally destroyed in some out of the way place, by some woman, accompanied for this purpose by the mother herself. From the excess of male adults alive, it may fairly be presumed that a by far greater number of girls than of boys are done away with in this manner. As an apology for this barbarous custom, the wo-

men plead that they cannot suckle and carry two children together. The men clear themselves of all guilt, saying—that they are never present when these deeds are committed, and that therefore all blame rests with the women.

Both sexes are very fond of their children, but yet the mothers are most careless with them, and let them burn themselves dreadfully at times, at their fires, as a consequence of which you seldom meet with a native who has not a trace, more or less disfiguring, of having been so burnt.

In the naming of the children a fixed and very simple rule is followed, according to the number of children born. For instance, the first-born is called Piri, if a boy; and Kartanye, if a girl. The second one is called Warni, or Warrunya. The third one is called Kunni or Kunta; and so on, according to its sex. They have seven or eight such names for each sex. In addition to these names used in familiar intercourse, and answering our Christian names, the child also takes the name of the place of its birth. Both these names they preserve during life, and the males, on attaining the age of manhood, get a third one, under strict observance of many mysterious formalisms which will be described hereafter.

Although living in a salubrious climate and on healthy food, the natives are subject to many diseases. Among those which they suffer most from are sores, diarrhœa, colds, and headache. For removing these, or partially curing them for the time, they apply outward remedies, some of which appear to be effective. The chief ones are—rubbing, pressing, and treading even upon the afflicted parts of the body, in particular the belly and the back; tightening of the belt, and also of the band which they usually wear round the head; bandaging the diseased part; sprinkling or washing it with cold water in case of fever or inflammation. Sores or wounds are generally left to take their course, or the utmost done is to tie something tight round it, or, if inflammation has ensued, to sprinkle cold water upon it. Bleeding of the lower arm they apply in cases of headache. A most extraordinary remedy against headache I saw applied in 1849, in the case of a woman, who submitted to having her head so cut up by another woman with pieces of broken glass, that the blood actually dropped through her thick bushy hair.

The cure by bleeding is confined to the males only, and is frequently applied during the hot season.

They do not allow the blood to run on the ground, but upon the body of some other man, directing the arm in such

a manner that the stream forms a number of small cross-lines, in consequence of which the body assumes the appearance of being covered with a tight-fitting network of very small meshes. The object of this custom partly is, as stated above, to act as a cure for headache and inflammation, and partly also to promote the growth of the young people, and to preserve the strength and vigour of the aged ones.

Many proofs might be given of the very slight conception they can form of the relative bearing of cause and effect. For instance, an elderly fellow, who had been kept for two years in jail in Adelaide, had the idea that his beard, having turned grey, had been dyed by the soap with which he had been obliged to wash himself there.

The women may be present at the operation of bleeding. Whenever engaged in this or certain other operations, the "witarna," as above stated, is put in motion, to prevent young unmarried people from unwittingly surprising them.

The natives have also their regular doctors, called *mintapas*, who pretend to be able to remove, by sucking, sickness out of the body. They put their lips to the pit of the stomach in case of general disease, and to the suffering part where confined to any fixed spot, and, after having sucked for some time, pull out of their mouths a small piece of wood or bone, pretending that this is the body of the disease, which had been communicated by some evil-disposed person, and had now been extracted by them.

So superstitious are these ignorant children of nature, that they have the fullest faith in these absurdities, and passionately defend them against any one expressing the least doubt respecting them, or hinting even that the *mintapa* might have put the piece of wood or bone into his mouth previously. They further appear to attribute to these *mintapas* supernatural powers, and to consider them almost as beings of a superior class, to whom they assign after death a place of residence different to that whereto other people are removed, and which they call *Pandarri Kurto* (heaven's cavern). The souls of these *mintapas* are supposed to be at full liberty to enter and leave this place, and are said often to appear in the evening in human forms to these natives, bringing with them new songs, and then disappear again.

It is well ascertained that they have among them poets as well as doctors, as has been proved in the case of *Maltalla*, an old man, who shortly before his death made two songs, which are now recited by his tribe.

The names of common blacks, when dead, are not mentioned for a considerable time, but in the case of Maltalla, and probably all mintapas, they make an exception of this rule.

The dignity of mintapa seem to be hereditary, for, as the blacks used to say, Maltalla's eldest son, although he had not then given any proofs of his aptitude for the office, would assume the functions of a mintapa.

Among the blacks in the immediate neighbourhood of Port Lincoln there are few of these sorcerers, but among the savage Kukata tribes they are said to be numerous.

The natives show strong feelings of commiseration in cases of illness, the women particularly so, who, under an abundance of tears, prove their interest and attention by frequently rubbing and pressing the affected parts; but the sick themselves, in desperate cases even, submit to their sufferings with a surprising stoicism and resignation.

A very peculiar circumstance, not to be met with perhaps in any other uncivilized community, is that these natives have no chief or individual of acknowledged authority among them. All the adult men are quite equal one to the other, a fact so well understood among them, that no one would ever presume to adopt a tone of command to another one, but, by asking and persuasion only, tries to obtain what he wants. The young people, however, show great respect towards the old ones, a tribute to advanced age or to greater experience perhaps; but this, no doubt, is increased and preserved by a superstitious and dreadful horror of certain secret rites known to the grown-up men only, into the knowledge of which the young lads are initiated by degrees.

The three degrees which they have to pass through, constitute three distinct epochs in their lives; during the interval between the rise from one degree to the other, the name of that particular degree last attained serves them for their usual name.

At the age of 14 or 15 years they enter the first degree, which procures them the distinguished name of Warrara.

Mr. Schurmann has never witnessed the performance of these ceremonies, as the natives, apprehensive lest these secrets might be communicated to their wives and children, do not admit any strangers at them, but he has been told a description of it; while closing the eyes of the lads, they pronounce certain mysterious formulas, calling out "Herri, herri, herri," and making a rattling noise

with the "pullakalli," an instrument resembling the "witarna," but smaller in size. Two or three months after this ceremony, the lad has to paint his face black, dares not speak aloud, but must express in whispers all his wishes and wants. Any infringement of these laws subjects them to severe reprimands from their seniors, and even more talking than is absolutely necessary is considered highly reproachable.

A few years after this first ceremony the young men advance to the second degree, when they are called Pardnapas, and have to undergo the operation of circumcision. Mr. Edward John Eyre, the well-known explorer, mentions this strange custom in vol. I. p. 212 as follows:—"This extraordinary and inexplicable custom must have a great tendency to prevent the rapid increase of the population; and its adoption may perhaps be a wise ordination of Providence for that purpose, in a country of so desert and arid a character as that which these people occupy." The hair, which while the lad was a Warrara in the first degree had been allowed to grow, is then plaited in a coil, and in the shape of a plate fastened on the crown of the head in a net made of the spun hair of the opossum; his penis is also covered with a kind of fringe or tassel made of the same material. These sacred marks of distinction are worn for several months; and after removal of the net the hair is not cropped, but made to hang down in curls. During this period, without any peculiar ceremony, the operation of the painful mutilating circumcision is performed, the particular object of which Mr. Schurmann has never been able to ascertain; the blacks themselves cannot assign any other reason for it, but that their forefathers had observed the custom, and that they must do the same. To the women and children they pretend that "Midhalla," an imaginary being, and said to be inhabiting some island, is the cause of this cruel mutilation.

The last and most important ceremony takes place at the age of 18 or 20 years, after which the young men are called "Wilyalkinyes." Mr. Schurmann having twice had the opportunity of witnessing its performance, is thereby enabled to give a detailed description of it.

As an introductory step for the grand festivity, the so-called "Indanyanas," a kind of sponsors, are chosen, their duty being to carry out the old established custom relating thereto. Some one clasps his arms, from behind, around the sponsor whom they have fixed upon, and draws him backwards on his lap, after which others collect around him, urging him to

accept the office of Indanyana, an honor which he pretends to accept of most reluctantly. (All festivities of the blacks take place during the summer season, when a great number of them are always collected together; and since no one among them possesses any authority of command, it requires no little mutual persuasion and exhortation to move on a large idle body of them; the natural consequence is, the greater part of the day passes on in going through ceremonies for which an hour would be amply sufficient.)

They commence by closing the eyes of the "Wilyalkinyes," and by fetching out of their camps, apparently much against their will, the women, who raise up a general lamentation, far, however, from sincere; in the meantime, the lads have been removed by their sponsors, and are kept at a short distance from the place of encampment. These, then, having placed themselves in a circle, holding for about an hour the eyes of the lads closed with both hands, utter from time to time a long, protracted, melancholy, monotonous tone, sounding somewhat like "Je—e—ch." Then leading the lads a further distance off, they lay them flat on the ground, and cover them up with rugs; after an interval of another hour, two men fetch several green boughs of trees, and the lads having been raised up again, the whole body of those present join together and form a large semi-circle round them. The two bearers of the green boughs now step forward, place themselves in the centre of the opening of the circle, vehemently stamp their right feet, and under various gestures of anger and wrath throw the boughs over the heads of the young men, while at the same time the other company make a clatter by striking their various war instruments together, and utter a volley of short, strong, loud sounds, the last of which they prolong each time that any of the boughs fall to the ground—similar, we might say, to "Je-je-je-jeh," while the young initiated are then laid on the carefully-spread boughs, and again covered with rugs. The others quite leisurely set to work preparing the small pieces of quartz for the tattooing operation, and engage in finding out some new names to bestow on them for life hereafter. The latter becomes a rather difficult task, since the name has not only to correspond with their taste and notions of euphony, but also must be quite new, and not have been borne by any other individual alive or dead even. These names generally are derived from the roots of verbs, to which they attach as end-syllables—"alta," "ilti," or "ulta"—according to the last

syllable of the word itself. Whether these changes affect the meaning of the word we cannot say, as they are made use of in connection with proper names only. The natives by no means despise any suggestion from the whites in reference to any new name, but yet in the choice of any one proposed they are very particular that it should be quite new and well-suited.

Everything being properly prepared, several of the men open a vein in their lower arm, and make the lads, after having lifted them again, swallow the first drops of this blood; they then make them kneel down and support themselves on their hands, and their backs, thus getting into an horizontal position, are covered over with a thick coating of the blood, and when this has sufficiently congealed, one of the men with his thumb marks out the spots where the incisions are to be made. One is made in the centre of the neck, and a row of them at distances of one-third of an inch, and running from each shoulder down to the hips. These incisions—about an inch long, and in course of time forming a kind of swelling—are called “Manka,” and are always considered with great respect, being never alluded to in the presence of the women or children. The other incisions, however, which at an early age are made on the breast and the arms, are merely for ornament, and have no sacred meaning. The more or less decided character of these swellings affords a certain indication of the probable age of a native. During the vigorous age of manhood they are strong and well defined, but get gradually reduced with the advance of age, until, when very old, they can be traced like scars only.

Although each incision made with the blunt rough quartz has to be repeated several times, in order to make them sufficiently deep, and afterwards the flesh has to be drawn asunder carefully, the sufferers, notwithstanding the dreadful pain of such an operation, do not utter a groan, or move a muscle even, in consequence. Mr. Schurmann, however, has seen some of their friends so moved by compassion for their sufferings as to shed tears, and make some attempts—although unsuccessfully, of course—at putting a stop to this cruel process. During the operation as many men as can approach press round the lads, rapidly repeating in a subdued tone the following formula:—

Kannaka kanya, marra marra,
Karndo kanya, marra marra,
Pilberri kanya, marra marra.

The object of this formula, handed down to them from their forefathers, and, as it appears, void of any meaning or sense soever, is to deaden the pain, and to prevent any dangerous effects of this dreadful laceration. The operation being concluded, the young men are raised up and their eyes opened, when the first object they perceive are two men, who, stamping their feet and biting their beards, run towards them hurling the "witarna" with great vehemence, and apparently intending to throw it at their heads, but who, when sufficiently near, satisfy themselves with putting the cord of the instrument round the necks of one after the other.

In commemoration of their having passed through this trial, the Wilyalkinyes are honored with various marks of distinction, as, for instance, they are presented with a belt spun of human hair; they wear a tight bandage round each of their upper arms, also a cord of opossum hair round their neck, the ends dropping down on their back, to be fastened to the belt; further, a bunch of green leaves fastened above their part virilis, and at last they blacken their faces, arms, and breasts.

As a wind up, all present press once more around them in order to give their last good advice for their future conduct, the chief drift of which, as far as Mr. Schurmann has been able to make out, consists in the following—to avoid quarrels and disputes, not to indulge in talking loud, and to keep off from the women. The two last of these injunctions are strictly followed, and for this purpose they live day and night separated from the other blacks, and talk in a subdued tone only until after the expiration of four or five months, when they are relieved from this constraint. This absolution is effected by tearing off from the necks of the Wilyalkinyes the opossum cord, the symbol of taciturnity, and sprinkling the upper body with blood in the manner which has been described above. They are henceforth considered as initiated into all the secrets, and fit to be admitted to the enjoyment of all the privileges of grown-up men.

William von Blandowski, late curator of the Melbourne Museum of Natural History, mentions in his "Personal Observations of Victoria," p. 23, a custom of the Goulburn tribe which is interesting enough to give in full. "Upon a youth arriving at manhood, he is conducted by three of the leaders of his tribe into the recesses of the woods, where he remains *two days and one night*. Being furnished with a piece of wood, he knocks out two of the teeth of his upper

front jaw, and on returning to the camp carefully consigns them to his mother; the youth then again retires into the forest, and remains absent *two nights and one day*, during which his mother, having selected a young gum tree, inserts the teeth in the bark in the front of two of the topmost branches. This tree is made known only to certain persons of the tribe, and is strictly kept from the knowledge of the youth himself. In case the person to whom the tree is thus dedicated dies, the foot of it is stripped of its bark, and it is killed by the application of fire, thus becoming a monument of the deceased. Hence, we need no longer be surprised at so frequently finding groups of dead trees in healthy and verdant forests, and surrounded by luxuriant vegetation."

A similar custom Dr. Livingstone found in the Babimpe tribe in Africa, they knocking out both upper and lower front-teeth as a distinction.

As stated above, the women and children are not allowed to attend any of these ceremonies. Their camps even on these occasions are then so placed that their view is fully obstructed by bush or hills. If, however, any woman's or child's business—to fetch water or wood, for instance—should lead them within sight of the place of these ceremonies, they are required to cover their heads with their rug, and to move on in a stooping position. Any improper curiosity, according to ancient custom, is liable to be punished with death.

As a proof of the significance they attach to these strange rites and customs, it may be instanced that it is considered insulting if one of a higher degree taunts his adversary with the lower degree he still occupies; thus—"Warrara purro," meaning a warrara only (still in the first degree), and "Pardnapa purro" (a pardnapa only), or still in the second degree, are used as offensive terms.

The views of the natives in reference to supernatural beings or influences are very peculiar and remarkable. They have as clear a conception of the unsubstantiality and immortality of the soul as might be expected of them. In order to express the former quality, they represent the soul as being so small that it might pass through a chink; and in reference to the latter, they state that after the death of the body the soul retires to an island as so small an atom as to be able to dispense with further nourishment of any kind. Some represent that island as being in the east, others in the west; therefore, either not agreeing as to the exact locality, or believing in the existence of several such islands whereto the departed

souls resort. On its journey to this island the soul is accompanied by a redbill, a kind of sea-bird, notorious for its piercing shrill voice, audible during the night. It appears that since they have found out the existence of the race of white people, they have adopted the notion that their souls will hereafter appear in the bodies of such white people. Whatever be the cause, at present this is their belief, and they look upon the whites as being only the embodied souls of their forefathers. It may be instanced as a proof of how firmly they do believe, or rather have believed this, that in the idea they had recognised in some of the settlers natives long ago departed from life, they actually gave them the names which these had gone by when alive. This notion is not confined to the Port Lincoln blacks, but prevails also with those of Adelaide and Victoria. To Mr. Blandowski, one of our Australian travellers, it has occurred that an old lubra (black woman), supposing him to be her former husband resuscitated, has most tenderly embraced and kissed him.

The last words of a young Port Lincoln native, hanged in Adelaide a few years ago, were to the effect that in course of time he would become a white man, and yet this man had by Europeans been taught more correct views.

These apparently conflicting two ideas—one, that an island is the receptacle of the soul; the other, that they re-appear in bodies of white people—may, perhaps, be reconciled by the assumption of the natives that the island is the place of residence for a certain period only. This is the more probable, as they decidedly believe in a change of the souls, and assign to them this island as an intermediate place of residence.

We can scarcely assume that the natives have originally had any conception of future reward or punishment for good or evil acts committed in this life, but yet they seem to think that the fate of man depends on his own conduct, as may be illustrated by the following anecdote:—

It had been reported that in the neighborhood of Streaky Bay a blackfellow had been shot by the crew of a whaler, because he had speared one of their dogs which had furiously attacked him. Some time afterwards the crew of a stranded whaler landed in the neighborhood, and on expressing a supposition that they might be the same men who had killed the blackfellow, their misfortune was ascribed as the consequence of their former cruel deed.

Among the superstitious notions of the Port Lincoln blacks, their belief in the existence of a demon monster is most

remarkable. It is called "Marralye," and is represented as a man of the Kukata tribe, assuming, in order to fly through the air, the form of a bird. It is dreaded at night time particularly, during which it attacks its victims while asleep, implanting in them the germ of death, or inflicting on them some other grievous harm. It, however, takes good care not to leave behind any visible traces of its misdeeds, so that his nightly visits can only be discovered by their pernicious effects, such as pain, disease, &c. To him the death of children and loss of eyes are attributed, if no other obvious cause for them can be made out.

It is to be mentioned that the Marralye does not exist substantially, but that it is only a mask assumed by wicked men to enable them to carry out their depraved designs. The Purkabidnies are another species of fabulous beings; whose number is without limit. They are depicted as men of a gigantic size, who, destitute of all clothing, roam through the country, armed solely with clubs. Although thirsting for blood, and giving themselves up to murder, still they are by no means so dangerous as the Marralye, as by science of arms and courage they are to be resisted, and even overcome. The aborigines never think of leaving their camp during the night time without taking a spear in their hand to protect themselves against these assassins, who might be lurking in the neighbourhood. Some of the natives go so far as to boast that they have killed Purkabidnies, but it is to be presumed that in their superstitious fright they have mistaken black stumps of trees, or even other aborigines, for these terrible monsters. Mr. Schurmann tells us that two natives whom he had with him once showed him, in the middle of a thickly wooded region, at a distance of not more than a hundred paces, a dark object, which certainly bore resemblance to a black man in a stooping position. They were convinced that it was a Purkabidnie, and not only did they refuse to accompany Mr. Schurmann, but they even endeavoured to dissuade him from attempting to examine the object in question. Upon Mr. Schurmann approaching the object, he found it to be a charred stump of a tree, and when he laid his hand upon it, the natives burst into a loud laugh, and for this once acknowledged that they were in error, but, nevertheless, they remained steadfastly convinced that there were such spectral beings, and that they had without doubt seen them upon other occasions. That isolated natives, who have wandered too far into the territory of a strange tribe, are taken for Punkabid-

nies, is not improbable, and the following circumstance gives a tint of truth to this belief. Two young blacks of the Murrumbidgee tribe, who left Mr. Eyre in the middle of his journey from Adelaide to King George's Sound, after murdering his overseer, were, in their turn, while proceeding homewards, killed by a western tribe, in the belief that they were the redoubted Pankabidnies. The worst kind of superstition, and which in proportion causes as much mischief among the native tribes as the belief in witchcraft formerly did in Europe, is the notion that any one, out of hatred or other motives, can kill any person inimical to him during his sleep, and that this is done by boring the enemy with the fingers in the side in a peculiar way. The consequences of this proceeding are said to be gradual loss of health, and finally death. The guilty wretch is generally discovered by the evidence of the dying person. The aborigines have habituated themselves to the belief that in all cases of death which cannot be accounted for, as proceeding from old age, wounds, and other palpable causes, knavish and malicious means have been resorted to. They are not content even when the cause of death is sufficiently clear, but seek to find a hidden cause, as the following event relative to the point will show. A woman, while clearing out a well, was bitten in the thumb by a black snake. It began to swell immediately, and in the short space of twenty-four hours the woman was a corpse. Still it was asserted that it was not an accident, but that the deceased had pointed out a certain aborigine as her murderer. Upon this evidence, which was heightened by the circumstance that no blood flowed from the wound, the woman's husband and his friends challenged the accused and his friends to combat. Peace, however, in the meantime was made, and upon the offensive side it was acknowledged that the woman was in error with regard to the guilty person. But still not satisfied that the snake bite should have been the cause of the death, another individual was suddenly discovered, and accused of being the author of the mishap. Thereupon war was declared upon him and his party, but at last the affair was borne with and forgotten. From this and other similar cases, it seems to stand forth clearly as much revenge as superstition is at the bottom of these infamous accusations. Considering that the aborigines are unacquainted with Him in whose hands are life and death, that they are little given to reflection, ready to sacrifice their friends in obedience to a blind fate, capable, however, of deep

grief, and being superstitious at the same time; considering all these points, it is not so much to be wondered at that they should seek for the cause without the region of human influences. The aborigines have many other superstitious ideas, and although not possessing such a dangerous tendency as the one above quoted, still such take hold of the imagination with a pernicious and undue strength. It is asserted that far distant tribes, viz., Kukatas, have the power to produce strong rain, intolerable heat, and barrenness, in consequence of which famine arises, and causes the other tribes to be snatched from this life *en masse*. It is worthy of remark that from the north-west, where the Kukatas camp, come in winter the most severe rain and in summer the terrible hot winds which make the ground arid and dries up all vegetation. A comet, or any other atmospheric meteor, is looked upon as a sure sign of death. Upon the appearance of the great comet in 1843 they were so overcome by fright and consternation, that they sought refuge in caves. The inhabitants of Port Lincoln have a mass of superstitions, inherited from their forefathers, in the highest degree improbable and monstrous, as we shall perceive from a few cases before us.

Pulyalanna was a great man, who died many years ago, and who had benefited his successors by having given names to the southern and western parts of the land, names they still retain at the present time. It happened unfortunately for him, however, that his two wives ran away from him, a circumstance that in no wise improved his temper. After a long and fruitless search he discovered their trail, and, following it up, he overtook them near Cape Catastrophe, and murdered them both, together with their children. They were then transformed into stone, and are to be seen at the present time in the middle of the sea, in the shape of islands and rocks. Their sighs can also be heard in a hollow rock through which the waves sometimes beat. Pulyalanna himself was, later on, taken near Point Isaac into the air, or into heaven, where he still remains in an angry mood. When he is excited, he raves and storms in the clouds, and produces thunder. He has been depicted as armed with clubs, with which he especially hits the pardnapas, and often with so true an aim, that he severs them in twain, and legs and bodies fly in different directions. Some of the old aborigines once prayed him to spare the pardnapas, and to destroy instead the she-oaks, which to this day bear the marks of his

clubs and thunderbolts. They go so far as to say that lightning is the creation of Pulyalanna, caused by his stretching his legs widely apart during one of his fits of rage.

The large red species of kangaroo, which is often seen in the north, is not found in the Port Lincoln district, and to judge from the following fable, one of these animals must have wandered to this place. Kupirri, so this animal was named, is said to have been of such enormous size, that he swallowed each and all who endeavoured to kill him with their spears. His aspect alone filled the natives with such fright, that they lost all presence of mind, and flung the wooden sling, middla, as well as the spear, which of course caused the latter to lose its effect.

At last two expert hunters were found equal to combat this monster. They were called Pilla and Idnya, who discovered his track in the ranges running north of Port Lincoln. They traced them for about thirty miles from Port Lincoln, came up to him at Mount Nilawo; finding the beast asleep, they immediately attacked it, but before they were aware of it, their spears became blunted, which difficulty must have been most inopportune for them. They fell into a violent dispute, and Pilla wounded his antagonist in several parts of the body with the blunted spear, receiving at the same time a cut across the nose from his adversary's middla. They soon, however, made peace and killed the Kupirri, and great was their astonishment, upon opening the animal, to find in his belly several of their swallowed comrades; but being as expert doctors as hunters, they brought the unfortunate natives to life again, and all made preparations to broil and eat the monster. After the meal was finished, and after they had smeared themselves with the fat of the animal, they set out to communicate to the sorrowing wives the happy issue of their adventure. The two heroes were later transformed into two species of animal, the opossum and the wild cat, which have not alone their origin from them, but which bear at the present day the names and the marks of the wounds they had given each other, by the opossum, in the shape of a furrow running from the head to the tip of the nose, and the wild cat in the form of spots over the whole of the skin.

Between Coffin and Sleaford bays I remarked an immense quantity of sandhills of great size, which on Capt. Flinders map were falsely represented as white cliffs. These mountains of drift-sand have been heaped up by the west winds, and constantly change their shape and position. According to the tradi-

tion of the aborigines they were raised by two of their ancestors, named Marnpi and Jadda. A large fire proceeding from the sea spread itself far and near along the coast, seeming about to envelope the whole land in flames; during the consultation how to meet such a misfortune, these two persons suddenly thought that the best means to extinguish the fire was by heaping earth on it. They set, therefore, to work, and raised the sandhills as a lasting monument of the same.

An aboriginal named Welu, celebrated for being a furious warrior, as also a great woman lover, made the horrible resolution of exterminating the whole tribe of Nauos or Nawos. He succeeded in killing all the males, by throwing one spear through all of them as they stood in a single file. Two young men, however, escaped, having sought refuge in the top of a tree; Welu followed them to kill them likewise, but a lucky stratagem saved them from his ire; they broke the branch upon which their enemy had climbed, he fell to the ground, and was attacked and torn to pieces by a tame dog. Thereupon Welu was changed into a bird, called in English the "Curlew," and the youths who had escaped his wrath were transformed into little lizards, the male of which is called Ibirri, and the female Waka; this is said to have occasioned the distinction between the human sex. This procedure did not seem to have been approved of by the aborigines, as each sex formed a fruitless hatred against the opposite sex of this little animal, the men amidst jokes and laughter striving to kill the Waka, and the women the Ibirri.

Ghost stories are not wanting amongst the aborigines. They say there is a rock on the south side of Port Lincoln full of deep holes, an occurrence not uncommon in the limestone formations of this region, inhabited by a race of dead men, who come out in the night to eat ants' eggs (this is a favourite food of the aborigines), but who during the day remained concealed in the above-mentioned holes. No one seems to have seen these night birds, but the natives say they have sometimes heard them calling to one another, whereupon the former are filled with horror, and take to their heels. They possess a number of such like tales, but these which have been already mentioned serve but to show the foolishness, improbability, and the monstrosity of the same.

Singing and dancing are the favorite and almost the sole amusements of the aborigines of this region. They are in the possession of a number of songs, each one consisting of

two, or at most three lines, of one such songs the following is a specimen :—

La pirra mirrána. Iyurá tyurra tyurráru
Iyíndo Katutyála. Paltá paltá paltárni
Kauwirrá wirrána. Ninna kutyu nyang-káli.

In the singing of this and other songs of the same kind, each verse is repeated twice, and when the last line is finished they begin again at the first. They do not seem to give much attention to the meaning of the words, so long as the necessary measure and the proper number of the accented syllables are observed. The greater number of these kind of songs would seem to belong to other far removed tribes, for they are not acquainted with the meaning of any of the words, nor do they think it worth while to make any investigation regarding them. Every question as to the origin of such verses or words is replied to by the convenient and simple answer that it is a *kuri*, or song. Their songs are in different measures, some being slow and serious, others quick and lively. These songs, however, do not offend the ear, but they are monotonous, and require that the voice should be raised and lowered with regularity. The natives are exceedingly accurate as regards the time, and, to prevent any mistake in this respect, they beat the time with their clubs. The end of the song is indicated by singing the last line in a low tone, sinking the voice gradually so that the last note is scarcely audible.

The aborigines generally choose the mild summer evenings for their dancing. If there should be a moon, so much the better; but should her silver light be wanting, they make up for it by bright burning fires. Any one wishing to take part in the dance adorns himself beforehand in the following manner. From each shoulder are drawn two white parallel lines down to the waist, in such a manner however that the four lines meet at the waist. They paint a white ring round each eye, a broad stripe down the nose, and about six or eight whitish lines, two and two, on the upper part of the arm; and, to put the finishing touch to their ball costume, they bind a tuft of green leaves round the legs above the knee. Should they be possessors of white birds' down, they make a wreath to go round the head, beginning at one ear and encircling the brow, close to the roots of the hair, to the other ear, so that it has some slight resemblance to a lady's nightcap. They have different kinds of dances, but the favorite and most practised consists in a number of jumps from side to side, and also for-

wards and backwards, holding the one hand to the side to which they jump, while the other hangs down by the body. The dancers place themselves in an irregular line, and at such a distance from each other as to leave sufficient room. They advance slowly until they stand before the singers, and then step again to the background. A dance, as the rule, lasts scarcely more than eight or ten minutes, for the movements of the body are so violent, and require so much exertion, that the dancers even in this short time are fully exhausted. Although the women are prominent in the singing, they take but little part in the dance; and, when they do, never more than two or three at a time. Still even this small amount of interest on the side of the women never fails to excite the men to greater exertions. At the end of the dance the men sit down forty or fifty paces from the singers. Being rested for about a minute, they come forward dancing one after the other, and one of the female dancers meets them half-way, and accompanies them in step up to the singers. At that point where the woman meets them they make a pause, and, later on, they repeat it two or three times, stamping with the feet on the ground, perhaps as a sort of ball-room courtesy towards the lady.

These evening amusements often last till long past midnight, especially should the number of dancers be great, or should two different tribes grace this aboriginal ball. Then they do their best to amuse each other by the number and different kinds of dances; on these occasions joy and cheerfulness are depicted on each countenance, and it can scarcely be credited that these good-natured faces could assume the distorted traits of deep and powerful anger, and that the wild gestures incident to the dance should change into wilder passions.

This, alas, happens but too often, especially during the hot portion of the year, when they disclose an amount of irritability of which in the cooler periods of the year they could not be supposed capable.

Their wars can be divided into two classes, viz., the one beginning suddenly, and arising from some paltry cause; the other being the fruit of deep premeditation, and proceeding from an earnest, sometimes from a true, and still oftener from an imaginary cause. Although the behaviour of the aborigines towards each other is generally characterised by good-nature, mildness, and even politeness, still it often happens that friends engage in sanguinary strife with quondam

friends. The most common motives of discord are attributable to the facts, firstly, that the women do not always deport themselves as is becoming to their sex; and, secondly, that the children quarrel among themselves, and do each other bodily injury, which involves the parents and relations in sometimes a bitter contest; or again, that one or other of the men is neglected or forgotten in the distribution of the necessaries of life.

The custom of dividing their food amongst each other is so common, that he who fails to observe this rule is branded as a sort of miser. An angry word, or an offensive action in respect of any of the before-named cases, acts like an electric spark. Each one springs up, grasps his weapons, and is ready to retaliate upon any verbal or actual insult offered to himself or to his friends. Although abuse made use of by the women seldom carries any bad effect along with it, still should it drop from the mouths of males, a fight is sure to be the result. The friends of the insulted person often endeavour to appease him, and even have resort to force in order to hold him back, but they generally fail in their object. Clubs are first thrown, and then they rush upon each other like tigers, beating each other with the middla, which instrument inflicts such severe wounds that the blood flows in streams, and the injured person falls senseless to the ground. Should the fight become still more furious, they have recourse to their spears; thereupon the women and children take to flight, and watch at a distance the terrible play of the men's fierce passions. They give vent to their feelings in a sort of monotonous song, drawing the last syllable of each word out to a great length, and suffering the voice to sink at the end of each sentence; they do this with a view perhaps of making themselves heard amid the confused noise and clatter, perhaps in order to give more force and energy to their invectives. Should one of the combatants fall dangerously wounded, the groans and lamentations in which his friends and the women indulge put an end to the predominant noise, and gradually to the fight as well. After peace has been restored, each one seems sorry for having caused the momentary interruption; and should any one have wounded his antagonist severely, he feels for him as truly and as sincerely as any of the others. Should loss of life or serious hurt be the result of the combat, it often happens that these must be expiated by again renewing the contest. On the other hand, if little damage has

been done nothing more is said about it, and the parties that yesterday fell upon each other with rage and fury are to-day the best possible friends. Those wars which are the fruit of premeditation and deliberation are known to the natives weeks, and even months, before they take place. A suitable place is pitched upon by the one side, and they then send heralds to the enemy to invite them to the contest. The causes of such a war are seduction, murder, or an attempt of the same. The last of these has for its ground the superstitious idea which prevails, that any one who has died within a short period has been deprived of life by wicked means. The next of kin to the murdered or dead man chooses some of his friends, and with them traverses the country, with the firm resolution to kill the suspected person wherever they may discover him. In earlier years two fights took place here, one on account of a murder committed, the other on account of an attempt to take away life. In the first case the murderer and the brother of the murdered man were aided and seconded by their respective friends. They were unanimous that the last-named person, as the avenger of the foul deed, should throw two spears at the perpetrator, and that if he should fail to hit his mark the quarrel should be forgotten. To judge from the violent and wild gestures of the warriors, the running about, the jumping, the biting of the beards and the weapons, the noise and the grimaces, a sanguinary combat was expected. But such was not the case. The antagonists trod from their own side into the foreground, and the avenger threw a spear most skilfully, but which was parried as ably as it was thrown. Whereupon this combat was brought to a close. The second fight, on account of attempted murder, took place in Port Lincoln, and the party about to be attacked were invited by heralds to attend the combat. The natives upon their arrival were painted with a white colour, and wore little peeled sticks which looked like plumes in their hair. They marched in long line, three deep, making now and then a halt, and with one voice poured forth loud cries. As soon as they had completed these evolutions, the other party, who were rather surprised, set to work to answer the salutation. After having hastily painted themselves, and arranging themselves in single file, they marched in a regular quick short step towards the enemy, who had in the meantime formed a camp. After they had thus once or twice marched round the enemy's camp, they formed themselves into a dense mass, bowed their heads, and uttered a piercing cry. They repeated these move-

ments two or three times, and then returned to their own camp in the same order they had observed upon leaving it. That evening and the greater part of the night were spent in singing and dancing, but with sunrise of the next day the fight commenced. Eight men advanced from each side, making use of mimical gestures, although the most profound silence was observed. They formed into a row, two deep, about twenty paces from each other, so that they came to stand two to two. Each warrior stretched his legs apart, and planted his feet firmly on the ground, holding a spear and sling in the right hand, and their katta, or grubbing-stick, together with other spears, in the left. They pushed forward their chests, and moved their bodies from side to side, as a sort of challenge. Each one fixed his eyes upon his especial antagonist, and seemed to have no concern about any of the others, as if he had nothing to fear at their hands. Not a sound was audible. Many spears were thrown on either side, and were avoided by moving the upper part of the body to one side, or were parried by giving the spears a blow with the katta or other spears held in the left hand. Thus the spears of the opponents failed to reach their mark. At length some of the party who sent the challenge went over into the ranks of the enemy, to show that they wished to put an end to the combat. One quarrelsome old man, who had struck the first blow, did not seem to be content to stay his arm without having spilled a drop of blood. He stood opposed to a young man of not more than twenty years of age, and he threw several spears at him after the youth had ceased fighting. The old rascal made use of the most insulting and provoking language, and was paid back however in his own coin. At length some of the old man's friends interposed, and sought to intimidate him, but finding they could not succeed in this, they made a point of striking up his throwing-stick as often as he placed a spear on it, thus causing the weapon to fall useless on the ground.

The skilful manner in which the aborigines avoid or parry the spears is truly astonishing. Mr. Schurmann, who was an eye-witness of the last-mentioned affair, tells us that the old man, who was renowned as a good marksman, took such good aim that it seemed almost a certainty that he would hit his adversary; nevertheless, each spear was met, and glided off the young man's katta, and shot over his shoulder, passing in close proximity to his ear. This can only be accomplished by a sure eye and a firm glance, which

are amongst the aborigines looked upon as the highest virtues of which they can boast, and of which they are the most proud. It has been said that the aborigines of the country are possessed of a cowardly disposition, and it may be that, when opposed to the whites, who are better armed and generally mounted, they have been found wanting in courage. But it is impossible for any one who has been an eye-witness to one of their own fights, to form such an opinion; on the contrary, he will be forced to confess that, when stirred up by passion, they will brave any danger. They are extremely sensitive upon this point, and look upon being called a coward as the greatest insult that can be offered. That little blood is spilled in these aboriginal contests, is to be ascribed either to their skill, or to the fact that they are by no means bloodthirsty. Although, on the one side, they possess a fierce and hostile spirit, still, on the other, it must be observed that they are capable of the more noble feelings of pity and compassion. This is called forth by a dangerous wound, as also by a severe sickness, but still clearer is it observed at and after the death of a friend. On such occasions they are accustomed, and particularly the female sex, to assemble and to weep bitterly. The loud lamentations to which they give vent upon the death of a relation or friend may perhaps be a custom inherited from their forefathers, for they always weep together, and at the same time. They also employ foreign means to produce tears. They rub the eyes and scratch the nose, if their own frame of mind should not be sufficiently sorrowful, or if the example of others should fail to produce genuine tears. Their weeping and groans at the commencement of a lamentation seem to be somewhat formal and forced, and thus the suspicion arises that they seem more sorrowful than is warranted by their true feelings. Nevertheless, the Rev. Mr. Schurmann believes that the aborigines feel deeply and mourn heartily the death of a friend, upon the following grounds, viz.:—For weeks and months they bemoan their deaths, especially at eventime, when they are assembled for rest, and when their hearts and minds are open to the influences of sorrow and grief for the departed friend. One of them is accustomed to break out suddenly into a long, protracted, plaintive tone, and gradually his example is followed by the others. After this lamentation, a profound silence is observed, and in truth their behaviour is such as belongs to persons oppressed by great grief. For years after the death of a friend, on no occa-

sion whatever do they pronounce his name. This, as one might suppose, does not proceed from superstition, but from the simple reason that they do not wish again to awake their slumbering feelings, or, to use their own expression, *that they do not wish to weep so much*. Should it be absolutely necessary to name a deceased person, it is done in the following manner:—I am a widow, fatherless, brotherless, &c., as the case may be, instead of saying my father or my brother is dead. The last ground on which Mr. Schurmann bases the sincerity of their grief is, that they risk their lives to revenge their deceased friend, if suspecting their death to have been caused by foul means.

Although at the interment of the dead certain rites and customs are generally observed, these are at times dispensed with, as was instanced in the case of an old man. After having dug a hole five feet deep and four feet long, and spread some dry grass in the bottom, they lowered the corpse into it, with the legs bent upwards, as the hole was too short to receive it in its proper position. The head, as is invariably done, was placed at the west end, from the notion that the departed souls all reside in an island situated eastward. The body was then covered with a kangaroo skin, and sticks having been driven immediately above it lengthwise into the sides of the grave, leaving a vacant space above it, the whole was then filled up with earth. As the last of this simple proceeding, some branches or bushes are collected round the grave, with the view, as I should think, of preventing stray cattle and horses from trampling upon it.

In the immediate neighbourhood only of European settlements, where they can obtain the necessary tools, are they able to dig such deep graves. Further up in the interior, however, where they are confined to the yam sticks for the operation of digging, the graves are made only sufficiently deep to admit the body, the sticks being driven in immediately above it. This custom is always observed, very probably in order to prevent the wild dogs from scraping up the body.

During my stay, in 1851, of a few weeks at a station forty or fifty miles north of Port Lincoln, I had the opportunity of witnessing a rather premature act of these natives. A woman had fallen ill, and one of the men on the second day having called at the station for the loan of a spade to dig the grave with, I went on the following day to see where she had been buried, when, to my astonishment, I found her recovered,

and quite well. The sight of the grave, however, which was prepared for her, cannot, at all events, have been accompanied with pleasing impressions.

The natives inhabiting the triangular peninsula of Port Lincoln are divided into several tribes, two of which are in daily intercourse with the Europeans, viz.—the Nauo or Nawo, and the Parnkalla. In addition to these, the natives mention three other tribes, as known to them, viz.—the Pukunnas, in the N.E.; the Kukatas, in the N.W.; and the Ngannityddis, in the N.; the latter occupying the territory between those of the two other tribes, some of which do occasionally visit the European settlements.

All these tribes seem upon the whole to entertain a friendly intercourse with each other; at least, apparently, there is not so much quarrelling going on among them as among the natives living more to the eastward.

The natives, in coming in contact with others of a different tribe, are very shy at their first meeting. They try to avoid each other, and do not speak together, unless unavoidably obliged to do so, or induced by a mutual friend.

Every attempt at estimating the number of these natives is made at a hazard, as all the members of a tribe never meet together. The general opinion is that an estimate at an average of 300 individuals for each tribe is by far below the actual number.

The chief difference of the various tribes consists in their language and dialects. This, however, causes no great inconvenience to those living on the borders of their territories, as each native understands, at least, the language of the adjoining district; thus, they frequently keep up their conversations in two different languages, in the same manner as if a German and Englishman were to talk together, each in his own language, but both understanding that of the other party. This peculiarity frequently occurs in families intermarrying in the neighbouring tribe, for none of the members ever think of attempting to speak the language of the other party.

In conclusion, I would state that every opportunity should be taken by every one coming in contact with our aborigines to collect as much knowledge as possible of their manners and customs before it is too late; and I may quote Mr. Moffat's words, which, although referring to the Africans, apply also to our aborigines.

He writes:—"I have traversed those regions in which,

according to the testimony of the farmers, thousands once dwelt, drinking at their own fountains, and killing their own game; but now, alas, scarcely is a family to be seen! It is impossible to look over those now uninhabited plains and mountain glens without feeling the deepest melancholy, whilst the winds moaning in the vale seem to echo back the sound, "Where are they?"

[While the foregoing sheets were going through the press, intelligence having reached Melbourne of the value, as an edible seed, of the *Marsilea hirsuta* (or Nardo), as found so useful in the Victorian Expedition, and which was the means of saving the lives of King, the sole survivor of Burke's party, as well as those of Lyons and M'Pherson, who had been sent with despatches to Mr. Burke, it has occurred to me that it would be well to mention that I found the same plant growing in Dumby Bay, Port Lincoln; but I did not observe that the natives had ever made any use of it as an article of food.]

ART. XI.—Description of a New Species of *Plumatella*. By
P. H. MCGILLIVRAY, A.M., M.R.C.S.

[Read before the Society, October 29th, 1860.]

THE study of the fresh water polyzoa has been so completely neglected by naturalists, except in Europe and North America, that at the date of publication of Professor Allman's great monograph, no species were known to occur south of the north temperate zone. Since that time a new form—*Hislopia lacustris*—has been described from Nagpoor, in Central India, by Mr. H. J. Carter, who has also found in the tanks at Bombay a species of *Lophopus* and a *Plumatella*, identical with *P. stricta*, Allm.* With these exceptions I believe that no addition to the geographical range has been made since the appearance of Allman's work.

Having long been familiar with the extreme richness of our fauna in marine polyzoa, I was satisfied that fresh water forms required only to be looked for to be found; and Mr. Aplin, of the geological survey, to whom I expressed this opinion, at once commenced the search. The result has

* Annals and Magazine of Natural History, March 1858, and May 1859.